Access and Benefit Sharing
Experiences from India

In its efforts to achieving the objectives of the Convention on Biological Diversity (CBD), the Government of India enacted the Biological Diversity Act in 2002 and notified the Rules there under in 2004. The National Biodiversity Authority (NBA), the State Biodiversity Boards (SBBs) and the Biodiversity Management Committees (BMCs) oversee the implementation of the Act and Rules at national, state and local levels respectively.

India's engagement with Access and Benefit Sharing (ABS) issues has been progressive and noteworthy. One of the best practice examples, cited globally, on implementation of ABS provisions and principles emanated from India through the Kani tribe and their traditional knowledge relating to the use of a plant called Arogyapacha where the local communities were recognized and rewarded for providing the genetic resource and associated traditional knowledge that resulted in commercialization of a drug with anti-fatigue properties called 'Jeevani'. This experience of ABS pre-dates the entry into force of the CBD.

The implementation of the Act and Rules in India with a focus on ABS issues receives much attention now. During the past few years, the NBA has put a robust and responsive ABS system in place which is being refined and made user-friendly on a regular basis.

India is proud to announce the entering into of approximately one hundred ABS agreements to date.

This is a huge step forward in operationalizing the ABS provisions within the Act as well as implementing the provisions under Article 15 of the Convention on Biological Diversity (CBD). Moreover India's experience in implementing ABS is pioneering to the extent that it is one of the few countries in the world that has gone beyond dealing with ABS as a technical issue involving inordinate amount of discussions amongst a small group of experts and policy makers. On the contrary, India is perhaps the first country in the world that has been able to tap into the magnitude of ABS having dealt with over six hundred ABS applications. In fact the experience from India including its limitations offers rich lessons to other countries who seek to move beyond approaching ABS as a special issue involving extensive negotiations to understanding ABS as a large scale financing mechanism that will become an engine bringing a sea change in our perspective on fair and equitable benefit sharing and generate significant funds for conservation and sustainable use of biodiversity.

Access and Benefit Sharing Experiences from India

ABS agreements under the Biological Diversity Act are divided into four categories. Each of these categories necessitates the completion of four forms. They are: i) Form 1 which deals with direct access to biological resources and/ or associated traditional knowledge; ii) Form 2 which deals with the transfer of research results relating to biological resources from India; iii) Form 3 which deals with applications for intellectual property rights; and iv) Form 4 which deals with transfer of biological resources and/or associated traditional knowledge to third parties by individuals/entities who have accessed these resources and knowledge through Form 1.

The following table details the applications received and agreements signed so far.

Form	Category	Application Received	ABS Agreement Signed Between the NBA and Applicant
Form I	Access to biological resources and/or associated traditional knowledge	111	17
Form II	Transferring the results of research to foreign nationals, companies, non-resident Indians (NRI) for commercial purposes	35	12
Form III	Application for Intellectual Property Rights	477	54
Form IV	Third Party transfer of the accessed biological resources and associated traditional knowledge	61	17
Total		684	100

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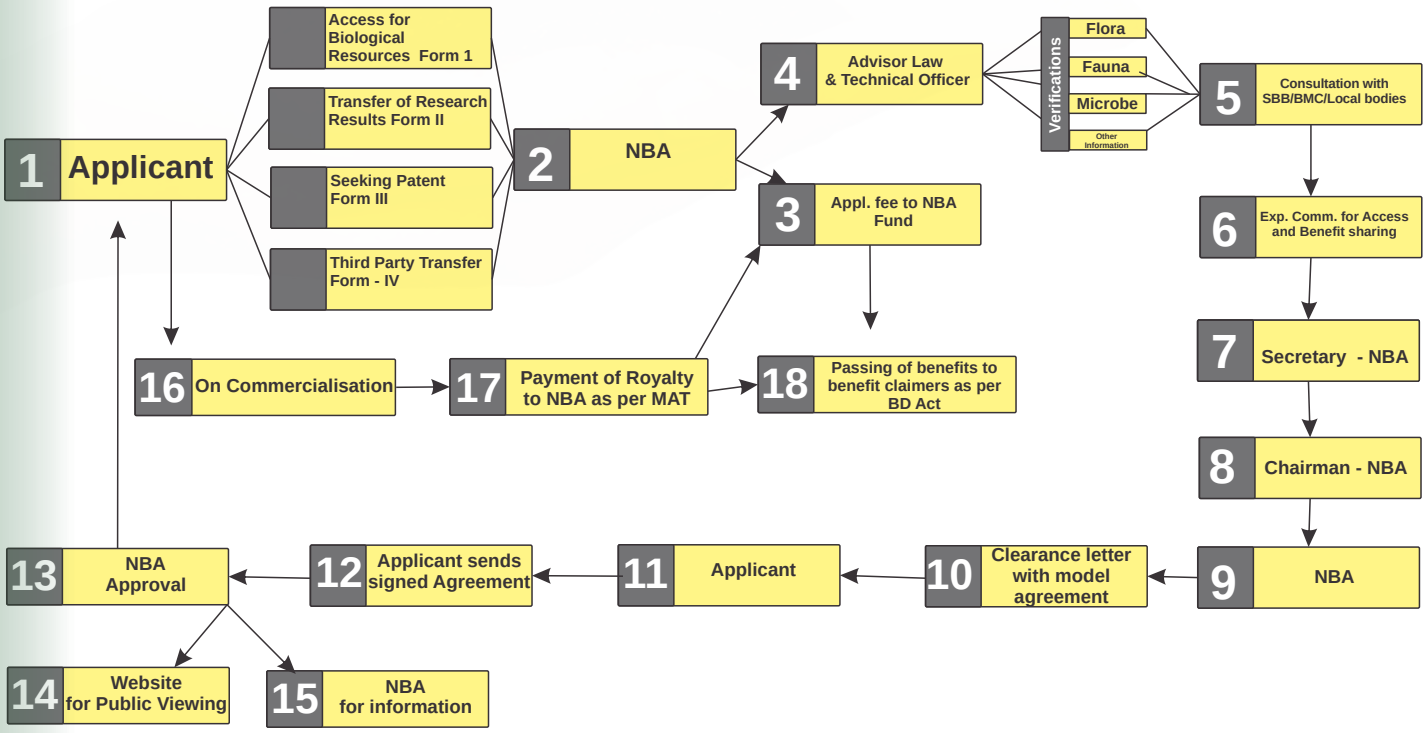
The ABS Application Process in India

The ABS process in India

Using a 'learning by doing' approach, the NBA has put in place an ABS system in India in accordance with the provisions of the Act and Rules. The following figure presents the step-by-step, all inclusive process in dealing with ABS applications. Efforts are underway to further improve the efficiency of the system of processing applications and granting approvals, including attempts to reduce the timelines involved.

Sections 3, 4 & 6 of Biological Diversity Act 2002 and Rules 14-19 of the Biological Diversity Rules 2004 lay down a clear, predictable and transparent process for access to Indian biological resources and/or associated traditional knowledge.



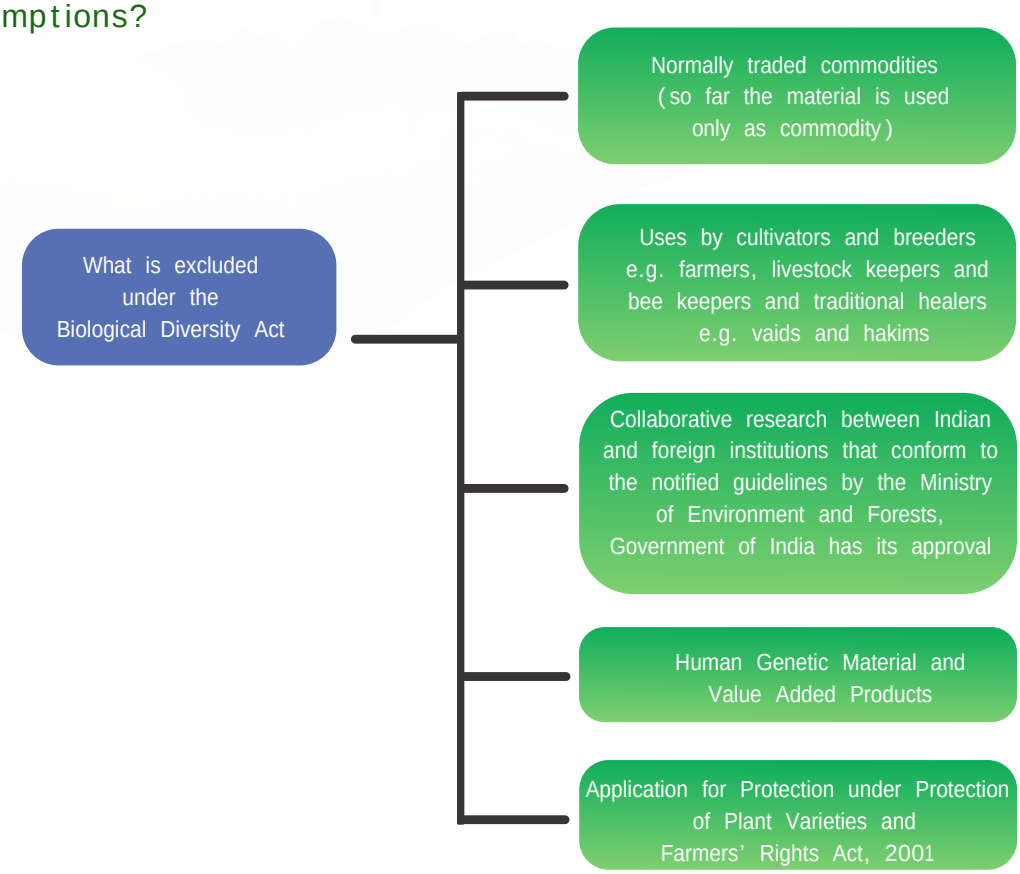
Access and Benefit Sharing Experiences from India

Who is required to make an ABS application?

Following the principle of common but differentiated responsibility, the Act covers foreigners, non-resident Indians, and any body corporate, association or organization that is either not incorporated in India or incorporated in India with non-Indian participation in its share capital or management. All individuals other than Indian citizens require the approval of the National Biodiversity Authority when they access/ use biological resources and associated knowledge occurring in India or obtained from the country for commercial or research purposes or for the purposes of bio-survey or bio-utilization.

Indians and Indian institutions do not require the approval of the National Biodiversity Authority when they engage in the above mentioned activities. However they would need to inform the State Biodiversity Boards prior to undertaking any research with the intent of commercialization. Any application for intellectual property rights based on Indian biological resources irrespective of whether such applications are filed by Indians or non-Indians requires the prior approval of the NBA.

The exemptions?



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Dealing with ABS Issues

Applications for Access to Biological Resources and/or Associated Traditional Knowledge (Form I)

The underlying principle of ABS is to ensure that access to biological resources and/or associated traditional knowledge is based on a set of principles, terms and conditions that include securing prior informed consent (PIC), finalizing mutually agreed terms (MATs) and ensuring fair and equitable benefit sharing. The Biological Diversity Act and Rules in India carefully examined all the relevant issues relating to Indian biological resources and associated traditional knowledge such as commercial and non-commercial research/use, research collaboration, trade and commerce (commodity trade), intellectual property rights and third party transfers and came up with a set of rules and procedures with regard to ABS applications in the country.

The categories of applicants, as identified under Section 3 (b) seeking access to biological resources and/or associated traditional knowledge are required to file Form 1 under the Act. The applicant is also required to pay an application processing fee of ten thousand rupees. All applications are reviewed in terms of the nature of material to be accessed, the quantity, timing, need and related issues. The applications are processed on a case- by-case basis.

An expert committee also helps the Authority in providing guidance in processing the applications and deciding on the benefit sharing component. The applications are approved after extensive consultations with local bodies from whose jurisdiction the biological resources and associated traditional knowledge will be accessed and ascertaining that the material is not related to species that are rare, endangered and threatened. After the approval, an ABS agreement is signed between the NBA and the applicant. The ABS agreements are drawn individually after a detailed discussion using a case-by-case approach.

ABS Agreements Signed Under Form I

Type of Form	Application by Indian		Applications by Non Indians		Total
	Research	Commercial	Research	Commercial	
Form 1	4	7	5	1	17

Key challenges and prospective solutions

Geographical location of the material

Applicants who seek to use Indian biological resources and associated traditional knowledge are required to provide the NBA with information on the quantities, timing and exact geographic location from where they would access such biological resources and knowledge. This is to enable the NBA to consult the relevant State Biodiversity Boards and concerned local bodies and involve them in any potential benefit sharing agreement.

However many of these applicants appear to have accessed the resources or knowledge not directly but through various intermediaries including local markets. Given the wide spread availability of biological resources and traditional knowledge, it is a significant challenge for the NBA to identify the local rights holders / benefit claimers thereby causing undue delays in the processing of the ABS applications. The NBA has therefore embarked on an extensive stakeholder sensitization process focusing on drug, seed and cosmetic manufacturers, highlighting the need for clarity about the geographic location of access in order to facilitate efficient processing of their ABS application. The NBA has also undertaken the preparation of a comprehensive database of information relating to the location and spread of biological resources including those that are endemic, rare, endangered and threatened.

Exemptions under Normally Traded Commodities (NTCs)

Section 40 of the Biological Diversity Act exempts NTCs from the purview of the Act. A set of 190 species are currently designated as NTCs and exempted from the purview of the Act provided they are used as commodities. However, the challenge lies in the lack of an agreed definition of what constitutes a 'commodity' for the purposes of Act with different stakeholder groups interpreting it differently. The NBA is currently working on developing greater clarity as to when a listed species would qualify to be an NTC by focusing on how the species are used.

Exemptions under Conventional Breeding

The Biological Diversity Act exempts conventional breeding and traditional practices involving the use of biological resources from the purview of the Act. In many ways this exemption seeks to ensure that agricultural uses of biological resources by farmers and breeders are not affected by ABS thereby adversely impacting food security. However there is a need to further clarify as to what constitutes conventional breeding and traditional practices. The NBA is addressing this challenge by engaging in consultations with experts, relevant ministries and departments with the aim of coming out with a policy solution that does not adversely affect food security while at the same time ensuring benefit sharing.

Other challenges

Almost all the applications received by NBA so far under Form I deal with plant material and a few microbial resources. Given the nature of animal and fish diversity in India there is a concern that these resources are being accessed without the prior approval of the NBA.

Case Studies

Seaweed

The bioresources *(seaweed Kappaphycus alvarezii/ Euchemia cottonii)* have been exported to the tune of 2000 metric tonnes to countries like Malaysia, Philippines and Indonesia by M/s. Pepsico India Holdings Pvt. Ltd. The seaweed is grown by Tamil Nadu coastal dwelling people mostly fishermen community from districts of Ramanathapuram, Tuticorin, Pudukottai and Tanjore. The NBA was paid a royalty @ 5% of FoB (Free on Board) to the tune of Rs.39.09 Lakhs by the exporter. Efforts are being made to form Biodiversity Management Committees by State Biodiversity Board of Tamil Nadu in coastal villages to distribute the benefits accrued thus far with 754 benefit claimers spread across 4 districts in Tamil Nadu.

Neem Leaves

Neem leaves *(Azadirachta indica)* have been exported to the tune of 2000 kgs to Japan by Bio India Biologicals Company. These neem leaves have been collected from Amarchinta village biodiversity management committee (BMC) of Mahboobnagar district, Andhra Pradesh. The neem leaves are collected and dried by undertaking a few special operations by the villagers of Amarchinta before handing over to exporter. The NBA was paid a royalty @5% of FOB to the tune of Rs. 55,035.00 by the exporter and transferred part of the royalty amount to Amarchinta BMC for planting neem saplings and creation of awareness about biodiversity conservation.

Dealing with ABS Issues

Transferring the Results of Research to Foreign Nationals, Companies, Non-resident Indians for Commercial Purposes or otherwise (Form II)

Form II needs to be completed by applicants who would like to transfer results of research stemming from Indian biological resources to foreign nationals, companies, non-resident Indians for commercial purposes. The applicant is charged a processing fee of five thousand Indian rupees.

The application review and decision making process is similar to that in Form I. The information presented in the application is reviewed by an expert committee to ascertain the purport, relevance and authenticity of the application. In the ABS agreement signed under this category of applications, clauses are included to ensure no third party transfers occur.

All the applications are assessed on their own merits and agreements for ABS are drawn individually after a detailed discussion using a case-by-case approach.

ABS Agreements Signed Under Form I

Type of Form	Application by Indian		Applications by Non Indians		Total
	Research	Commercial	Research	Commercial	
Form II	12	–	–	–	12

Key challenges and prospective solutions

Research Collaboration

Section 5 of the Act exempts collaborative research from the requirements of securing prior approval of the NBA. The exemption covers collaborative research between Indian and foreign institutions and aims to facilitate research and while removing any encumbrances to the same . For research to qualify as collaborative research under Section 5, it would have to conform to the Central Government guidelines for collaborative research and be approved by the Central Government. However despite the exemption for collaborative research and guidelines that need to be followed, there is a need for further clarity of what exactly constitutes collaborative research and how it can be distinguished from transfer of specimens between Indian and foreign research institutions.

The NBA is currently engaging with research institutions, government agencies and academia to ensure that they have the necessary clarity regarding the process to follow when they engage in collaborative research.

Shift from collaborative research to commercialization

While much of the collaborative research has no real commercial intent, there is a growing body of collaborative research that does have clear commercial aims. This blurs the line between collaborative research that is exempted under the Biological Diversity Act and commercial use that requires the prior approval of the NBA and benefit sharing. In order to provide clarity as to where collaborative research ends and commercialization begins, the NBA is putting in place a public awareness campaign including developing briefing notes on Section 5 and clear 'dos and don'ts' under the Biological Diversity Act.

Case Studies

DNA marker assisted selection

National Dairy Development Board, Indian Immunologicals Ltd., has sent 2 microgrammes of DNA samples (blood origin) 36 Murrah buffaloes, 48 Rathi breed of cattle and 48 Kankrej breed of cattle to Animal Sciences Research Centre, University of Missouri, USA. These DNA samples will be used for DNA marker assisted selection in cattle and buffaloes with the aim of selecting animals for fast genetic improvement and thereby augmenting the milk production and disease resistance in cattle and buffaloes. The MTA has also been developed between parties.

HapMap project

Similarly the National Chemical Laboratory has sent the DNA of two Indian sheep breeds viz., Garole and Deccani to CSIRO which is a member of the International Sheep Genome Consortium for Ovine HapMap project. The applicant/country would commercially benefit by having their breeds characterized genetically and evaluated for molecular diversity and genetic relationships with all other breeds in the study.

Endophytic compounds

The Indian Institute of Spices Research has transferred bacterium *Pseudomonas aeruginosa* isolated from internal tissues of black pepper to Laboratory of Phyto pathology, Wageningen University, Netherlands for evaluation of antimicrobial compounds from bacterial endophytes against major pathogens of spice crops such as ginger, turmeric, black pepper and cardamom.

Dealing with ABS Issues

Seeking Intellectual Property Rights (IPRs) (Form III)

The maximum number of applications received by NBA so far relate to seeking prior approval for patents. Section 6 of the Act require that no person shall apply for any IPR, in India or outside, for any invention based on any research or information on a biological resource obtained from India without obtaining previous approval from NBA before making an IPR application.

Section 6 (2) provides for imposition of benefit sharing fee or royalty or both and imposes conditions including the sharing of financial benefits arising out of the commercial utilization of such rights. Section 6 (3) provides for exemption if any person makes an application under the Protection of Plant Variety and Farmers Rights Act (PPVFRA). Section 19 of the Act further empowers NBA to prescribe the manner in which the IPR or patent application can be made. Rule 18 provides the details of procedures for seeking prior approval before applying for IPR protection.

Dealing with PIC, MAT and Benefit Sharing

Sections 6, 19 and Rule 18 cover the details related to PIC in this application process. Rule 18(5) and Section19 (3) elaborate the mutually agreed terms and conditions. Section 21 of the Act and Rule 20 specify the benefit sharing principles related to applications seeking IPR protection under Form III.

All the applications are assessed on their individual merits and agreements for ABS are drawn individually after a detailed discussion using a case-by-case approach.

ABS Agreements Signed Under Form III

Type of Form	Application by Indians	Total
Form III	54	54

Key challenges and prospective solutions

Communicating the Patent Offices

India is one of the few countries around the world that had put in place disclosure requirements in patent applications without waiting for global agreement on this issue either through the Nagoya Protocol or waiting for final outcomes from the negotiations under the World Intellectual Property Organization – Intergovernmental Committee (WIPO-IGC). The revision of Patent Law and the enactment of the Biological Diversity Act in the country clearly recognized such a need for disclosure of the source of the biological material and any associated information (read knowledge).

Currently the communication and working relationship between the NBA and Patent Office has been significant where many wrongful applications for IPR protection were rejected. One challenge, however, is that applications processed through the Patent Cooperation Treaty (PCT) are outside the purview of the Act.

Issues of life of patent and benefit sharing

Considering the life of patents and related IPRs have a specific time span, the Act recognizes the challenge to deal with benefit sharing issues related to applications processed under this category. The position currently being taken by NBA is to de-link the life of patent and benefit sharing requirement so that anytime the biological resource is used, benefits need to flow back to the community.

Lessons Learnt

Majority of applications received under this category comes from the Council of Scientific and Industrial Research (CSIR) which belongs to Ministry of Science and Technology of Government of India. CSIR has already instituted a set of norms and ways of dealing with royalty payments, which is not entirely in tune with the provisions of the Act, at least in the context of benefit sharing decisions. Discussions are underway with CSIR to ensure that the applications and applicants comply with the provisions of the Act which is a statutory requirement in the country.

Considering the need to encourage and promote research and development, NBA has taken a sympathetic view to certain applications of IPR from public sector agencies, such as the Serum Institute of India by agreeing for a concessionary benefit sharing requirement.

Case Studies

Pinak Tablet

Dr. Geeta Pandurang Pawar, an ayurvedic doctor from Pune, India has applied in Form – III (Seeking 'No objection Certificate' for obtaining a patent) for preparation of an ayurvedic anti snake venom comprising four medicinal plants. In the treatment of victims of snake bite, this anti venom tablet 'pinak' acts as a temporary relief instantly before victim is taken to the hospital. In this case, NBA has fixed the benefit sharing as "2% of the Gross sales or Gross revenue of the product derived from the use of biological resources accessed." On commercialization of the patent product and as per the conditions of the agreement, the applicant has paid two installments towards royalty as benefit sharing to the NBA. It is pertinent to mention that this is the first of its kind in India under the BD Act.

Cure for Hypertension

An ayurvedic composition comprising specific quantities of purified extracts of the ingredients is prepared in a de-humidified area and is packed in capsules for oral consumption twice a day. The preparation cures hyper tension and heart ailments regardless of constitution, age and hereditary antecedents of patients. Commercialization of this product is yet to happen.

Herbal Treatment for Pulmonary Disease

Chronic obstructive pulmonary disease (COPD) is a chronic respiratory disorder occurring in humans mainly due to smoking and this cannot be cured. It adversely affects the patients reducing them minimal activity as the disease progresses. Dalmia Centre for Research and Development has invented a herbal composition for the treatment of chronic obstructive pulmonary disease bronchitis and respiratory disorders. Commercialization of this product is yet to happen.

Bioconcrete

It is well known that formation of cracks in concrete structures leads to weakening of such structure mainly due to seepage of water and moisture which attack steel reinforcements resulting in rusting and swelling. Such incidents of corrosion occur in sea-side areas with pronounced salinity. The invention attempts to find an answer to this problem based on the surprising discovery of the capacity of thermophilic, iron-reducing anaerobic microorganism of the family Showanella isolated from the hot springs. University of Jadavpur has made an invention called "process for preparing modified bioconcrete". Commercial application is underway.

Dealing with ABS Issues

Third Party Transfer of the Accessed Biological Resources and Associated Traditional Knowledge (Form IV)

Applications related to third party transfer of the biological resources accessed and associated knowledge are filed in Form IV as per Rule 19 of the Biological Diversity Rules. The applications in this category primarily relate to transfer of resources and associated knowledge accessed in India. To facilitate such applications, the Act provides for certain conditions including the need for sharing benefits. Sections 20 and 21 of the Act and Rule 19 are directly relevant to issues of third party transfer.

An applicant who seeks direct access to Indian biological resources and associated traditional knowledge would normally seek an approval from the NBA under Form I. Form IV on the other hand is designed to anticipate situations wherein the value chain of research or commercialization involves transfers of biological resources and associated knowledge amongst different users. Hence Form IV is designed not only to capture benefits at different stages of the value chain where there is direct use of Indian biological resources and associated knowledge but also as a tracking and monitoring device. Form IV works as a tracking and monitoring device by placing the onus of ensuring utilization of the resource or knowledge in accordance with the ABS agreement on the party seeking to transfer the resource or knowledge (which in many cases is a party in India over whom the NBA has physical jurisdiction). Explicit provisions are made in the guidelines relating to third party transfers that approvals from the NBA must be sought prior to the transfer rather than post facto.

All the applications under Form IV are assessed on their own merits and agreements for ABS are drawn individually after a detailed discussion using a case-by-case approach.

ABS Agreements Signed Under Form IV

Type of Form	Category	Mutual Agreed Terms signed between NBA and Applicant
Form IV	Third Party transfer of the accessed biological resources and associated traditional knowledge.	17

Key challenges and prospective solutions

Tracking and Monitoring

The utilization of a large number of biological resources and associated knowledge that are accessed under an ABS agreement will involve transfers to third parties who are a part of the value chain.

This makes it extremely challenging for the NBA to monitor and track the resources and knowledge in order to prevent misappropriation. While the internationally recognized certificate of compliance under the Nagoya Protocol offers some respite here acting as a passport at the various designated checkpoints. At a fundamental level good tracking and monitoring involves the cooperation of user countries and a willingness to comply by the research and private sector. The NBA currently is working towards sensitizing and capacity building the Indian private and research sector that is likely to undertake third party transfers as regards their obligations under the Biological Diversity Act.

Transfers through Diplomatic Channels and Emergency Situations

Transfers to third parties and countries by Indian institutions or the government also takes place in emergency situations or based on bilateral trade/research/technology transfer agreements including diplomatic channels. The Biological Diversity Act however makes no formal exemptions for such transfers requiring the transferor to seek the prior approval of the NBA in accordance with Form IV.

Which Application?

Non-Indian entities that seek to access Indian biological resources sometimes access them from Indian companies/ exporters. This leads to confusion resulting from entities being unsure whether they would need to apply for access to the resources under Form I or Form IV. Since Indian companies/exporters don't need to get prior approval of the NBA through Form I for accessing Indian biological resources, it becomes incumbent on the foreign entities to which they transfer these resources to secure the consent of the NBA in accordance with Form I. The NBA has through its website and constantly updated FAQs provide clarity on issues like this.

General issues of compliance

Despite the efforts of the NBA to regulate, monitor and track third party transfers, effective compliance can only be achieved through the implementation of the Nagoya Protocol. Specifically this entails use of the internationally recognized certificate of compliance along with the establishment of checkpoints by user countries for monitoring and tracking.

Case Study

The Energy and Resources Institute (TERI) has sent dried root powder and extracts of Chlorophytum species for isolation and characterization of Biologically Active Saponins from Chlorophytum species to UFR des Sciences Pharmacequtiques et Biologiiques, Dijon, France. The MTA has also been developed between TERI, India and University of de Burgundy, France. The material transferred under the project will be utilized for identification of saponin molecules and study of cytotoxicity of saponins. The cytotoxic saponins identified in the project may further be worked on to develop anti-cancer drug while the insecticidal saponins may be developed into suitable formulation for utilization as environment friendly integrated pest management programmes.

Dealing with ABS Issues
Benefit Sharing

All the applications approved by NBA for access to biological resources, IPR protection, transfer of research results and third party transfer attract specific benefit sharing requirements with the applicants on a case-by-case basis. The benefit sharing elements of an ABS agreement is guided by Section 21 of the Act and Rule 20 of the Rule that specify the role of NBA in deciding the terms and conditions of benefit sharing. The Act also clarifies the distinction between monetary and non-monetary benefits.

The Act also makes provision for decentralization. Sections 27, 32, 42-47 and Rule 21 calls for establishment of National Biodiversity Fund, State Biodiversity Fund and Local Biodiversity Fund to ensure benefits accrued are appropriately managed and used at different levels. Section 43 of the Act provides for the constitution and management of the local biodiversity fund through the Biodiversity Management Committees (BMCs) at the community level.

The implementation of Act at national, state and local levels is based on the hands on experiences of the NBA in negotiating benefit-sharing agreements. Based on these experiences, the NBA with support from the Expert Committee on ABS has developed a set of terms and conditions/guidelines on benefit sharing for ABS agreements. These conditions are flexible and vary from case-to- case, based on the recommendations of the Expert Committee that reviews the ABS applications.

Despite the case-by-case approach to benefit sharing by the NBA and the Expert Committee, the NBA has devised some ready-to-apply benefit sharing formula (as given below) to deal efficiently with the volume of ABS applications that it is processing. The payment (royalty) in such cases shall be made to NBA which will be ploughed back to the benefit claimers/conservers/growers of biological resources.

1. Applicant shall pay to the NBA annually during the term of the agreement a royalty @ 2 to 5 per cent of the gross ex-factory sale of the product derived from the use of the biological resource and/or associated knowledge accessed.

2. Applicant shall pay annually during the term of the agreement a royalty @ 5% of the total ex-factory sales of the product derived from the use of the biological resources and associated knowledge accessed as ascertained from the annual progress reports of the user duly certified by chartered accountants.

3. Researcher shall pay annually during the term of the agreement a royalty @ 5% of the upfront payment if the patent is licensed/transferred to others and also 5% of the ex-factory sales in the event of commercial production by the company from the use of biological resource and associated knowledge accessed as ascertained from the annual progress reports of the user, duly certified by chartered accountants.

4. Exporter shall pay 5% of Free on Board (FOB) value of the export consignments as evidenced by a copy of the shipping bill and chartered accountant certificate, subject to licensing by Director General of Foreign Trade (DGFT).

The NBA has received the following royalty for the agreements signed:

Sl.No	Forms	Total Amount Received (INR)
1	Form I , IV (combined) (For Commercialization and Third Party Transfer)	39,09,765
2	Form I (Access for Commercialization)	4, 25, 993
3	Form III (commercialization of IPR)	3,940
Total		43,39,698

Responding to the Nagoya Protocol on Access and Benefit Sharing

The Nagoya Protocol

The Nagoya Protocol seeks to regulate the commercial and research utilization of genetic resources and associated traditional knowledge by requiring their users to secure the prior informed consent of the country and/or community holders of these resources and knowledge and share the benefits arising from such utilization with the country and/or community as the case may be.

Provisions of the Act and Rules that correspond to the Protocol

The Biological Diversity Act focuses on biological resources from the context of their utilization that corresponds to the utilization of genetic resources in the Nagoya Protocol. The Biological Diversity Act seeks to regulate the commercial utilization and research (including biosurvey/bio-utilization) of biological resources and associated knowledge from India by requiring non-Indian users to secure the prior approval of the National Biodiversity Authority and share the benefits arising from such utilization with (India and where relevant with the communities providing such resources and associated knowledge).

Examples to Operationalize the NP

❖Access to Genetic Resources

The ABS agreements currently being signed and implemented by NBA directly respond to provisions under Article 6 and 7 of the Nagoya Protocol. The Biological Diversity Act seeks to operationalize Article 17 of the Nagoya Protocol in the form of an agreement that contains most of the data required in an internationally recognized certificate of compliance. The NBA is currently working to ensure that its approval to the extent possible can also double as an internationally recognized certificate of compliance.

❖Benefit Sharing

The Nagoya Protocol requires the fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge in accordance with the domestic laws of the country from where these resources and knowledge are accessed. Section 21 of the Act and Rule 20 of the Biological Diversity Rules corresponding to Articles 5, and 12 of the Nagoya Protocol ensure that benefits derived from the utilization of biological resources and associated knowledge from India are shared with the benefit claimers in the country (including communities through the local Biodiversity Management Committees).

❖Compliance

Article 15 of the Nagoya Protocol requires the users of genetic resources and associated traditional knowledge to comply with the access requirements of the countries from where such resources and knowledge is accessed. The Biological Diversity Act, through Sections 3,4 and 6 lay down procedures for compliance while Sections 55-57 envisage clear measures for non-compliance.

❖Capacity Building and Awareness

The National Biodiversity Authority, State Biodiversity Boards focus on issues on capacity building and awareness for implementation of the Biological Diversity Act through a range of action. These include, capacity building, training programme, development of docket, language material, supporting BMCs and stake holders for better understanding of the Act.

Currently, NBA is implementing a UNEP-GEF-ABS project focusing on issues of capacity building and awareness to realize the ABS provisions under the Act.